

III. CLAIM AMENDMENTS

1. (Currently Amended) A power measurement system for measuring power of an electromagnetic signal, the system comprising:

a measuring unit for translating an electrical signal originating from a sensor into a power measurement;

a sensor unit comprising the sensor and an amplification circuit;

a cable for coupling the measuring unit to the sensor unit, the sensor unit and the cable defining a path for communicating the electrical signal originating from the sensor to the measuring unit; and

a reference source of that generates a reference signal capable of being tapped into the path in order to communicate the reference signal to the measuring unit arranged to be selectively coupled to the amplification circuit in at least one of the following configurations:

coupled to the amplification circuit in place of the sensor; and

coupled to the amplification circuit in addition to the sensor to provide a stimulus to the sensor via the amplification circuit.

2. (Cancelled)

3. (Cancelled)

4. (Original) A system as claimed in Claim 1, wherein the reference signal is a Direct Current (DC) signal.

5. (Original) A system as claimed in Claim 1, wherein the sensor unit further comprises a temperature dependent component for providing an indication of the temperature within the sensor unit.

6. (Currently Amended) A system as claimed in ~~Claim 3~~ claim 1, wherein the reference source is arranged to be selectively coupled to the amplification circuit in addition to the sensor to provide a stimulus to the sensor via the amplification circuit, and the reference signal is varied in amplitude to characterise the sensor.

7. (Currently Amended) A sensor unit apparatus for a power measurement system, the apparatus comprising:

a sensor;

an amplification circuit coupled to the sensor; and

a reference source of that generates a reference signal capable of being coupled to the amplification circuit arranged to be selectively coupled to the amplification circuit in at least one of the following configurations:

coupled to the amplification circuit in place of the sensor; and

coupled to the amplification circuit in addition to the sensor to provide a stimulus to the sensor via the amplification circuit;

for communicating the reference signal to a measuring unit via a cable.

8. (Cancelled)

9. (Cancelled)

10. (Currently Amended) An apparatus as claimed in Claim 7, wherein the reference source of the reference signal is arranged to generate a fixed reference signal.

11. (Original) An apparatus as claimed in Claim 7, further comprising a temperature dependent component for providing an indication of the temperature within the sensor unit apparatus.

12. (Original) An apparatus as claimed in Claim 7, wherein the reference signal is a Direct Current (DC) signal.

13. (Currently Amended) An apparatus as claimed in ~~Claim 9~~ claim 7, wherein the reference source is arranged to be selectively coupled to the amplification circuit in addition to the sensor to provide a stimulus to the sensor via the amplification circuit, and the reference signal is varied in amplitude to characterise the sensor.

14. (Currently Amended) A method of maintaining accuracy of a power measurement system comprising a sensor unit coupled to a meter unit by a cable, the method comprising the steps of:

generating a test signal;

receiving the test signal at the meter unit via a path defined by the sensor unit, the cable and the meter unit;
and

calibrating the meter unit in response to the test signal;

the test signal being a reference signal ~~tapped into the path~~ that is arranged to be selectively coupled in at least one of the following configurations:

coupled into the path in place of the sensor; and

coupled into the path in addition to the sensor to provide a stimulus to the sensor via an amplification circuit.